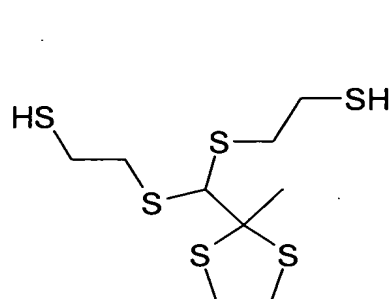
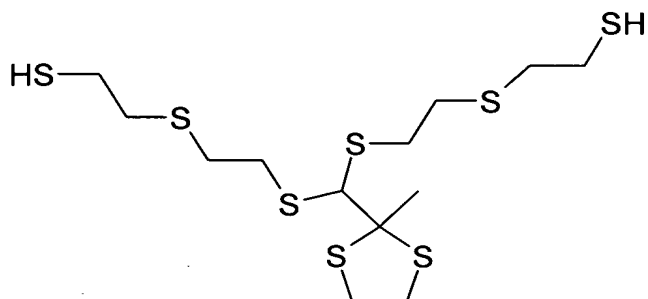


In the claims:

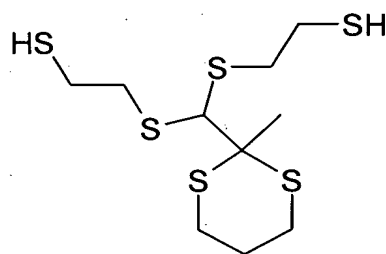
1. A composition comprising one or more sulfide-containing
5 polythiols chosen from materials represented by the following structural formulas:



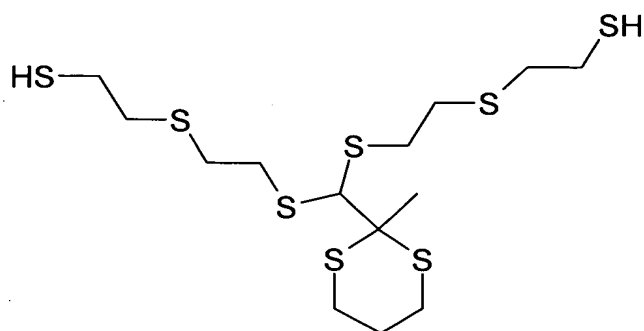
(IV'a)



(IV'b)

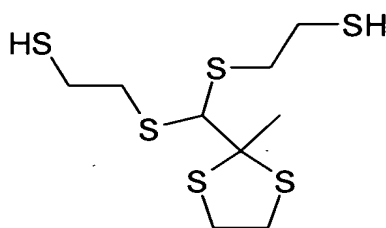


(IV'c)

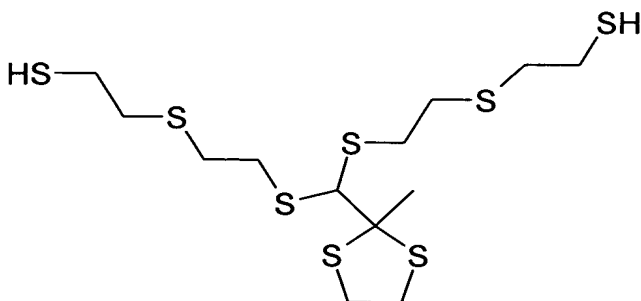


(IV'd)

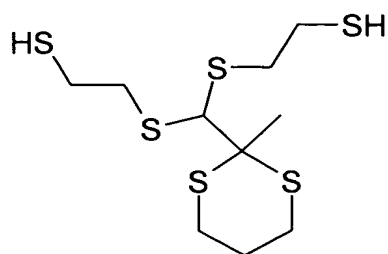
2. A method of preparing a sulfide-containing polythiol
represented by the following structural formulas



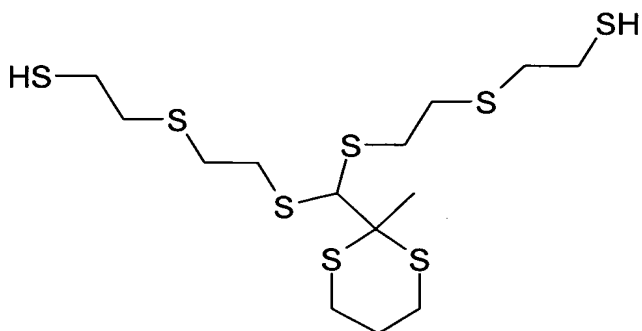
(IV'a)



(IV'b)



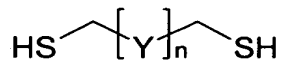
(IV'c)



(IV'd)

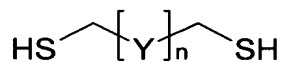
comprising:

- 5 (a) introducing asym-dichloroacetone together with a polymercaptan; and
- (b) introducing the reaction product of (a) with a material chosen from polymercaptoalkylsulfide, polymercaptan and
- 10 mixtures thereof.
3. The method of claim 2 wherein (a) is carried out in the presence of an acid catalyst.
4. The method of claim 2 wherein (b) is carried out in the presence of a base.
- 15 5. The method of claim 2 wherein at least one of the reactions of step (a) and (b) is carried out in the presence of a solvent.
6. The method of claim 2 wherein the asym-dichloroacetone is 1,1-dichloroacetone.
- 20 7. The method of claim 2, wherein the polymercaptan in (a) is chosen from materials represented by the following structural formula:



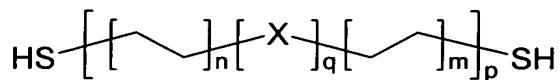
- 25 wherein Y = CH₂ or (CH₂-S-CH₂) and n = an integer from 0 to 5, and mixtures thereof.

8. The method of claim 7 wherein the polymercaptan in (a) is chosen from ethanedithiol, propanedithiol and mixtures thereof.
9. The method of claim 2 wherein the polymercaptan in (b) is chosen from aromatic polymercaptans, cycloalkyl polymercaptans, heterocyclic polymercaptans, branched polymercaptans, materials represented by the following general formula:



wherein Y = CH₂ and n = an integer from 0 to 5, and mixtures thereof.

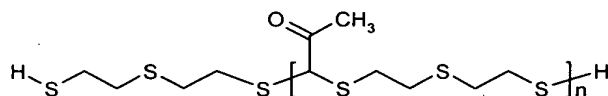
10. The method of claim 2 wherein the polymercaptan in (a) to prepare structural formulas IV'a and b is ethanedithiol.
11. The method of claim 2 wherein the polymercaptan in (a) to prepare structural formulas IV'c and d is 1,3-propanedithiol.
12. The method of claim 2 wherein the polymercaptan in (b) to prepare structural formulas IV'a and c is 1,2-ethanedithiol.
13. The method of claim 2 wherein the polymercaptopalkylsulfide in (b) is chosen from materials represented by the following general formula:



wherein X represents O, S or Se, n is an integer from 0 to 10, m is an integer from 0 to 10, p is an integer from 1 to 10, and q is an integer from 0 to

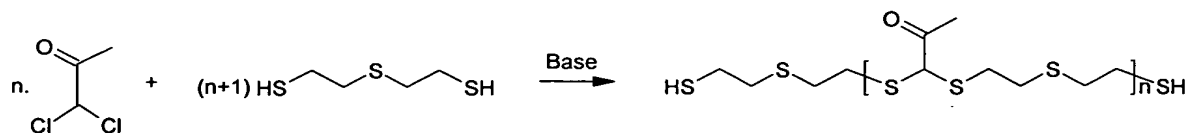
3, (m + n) is an integer from 1 to 20, and mixtures thereof.

14. The method of claim 13 wherein the polymercaptoalkylsulfide in (b) to prepare structural formulas IV'b and d is dimercaptoethylsulfide.
15. The method of claim 2 wherein in (a), the equivalent ratio of asym-dichloroacetone to polymercaptan is from 1:1 to 1:10.
16. The method of claim 2 wherein in (b), the equivalent ratio of reaction product of (a) to material chosen from polymercaptan, polymercaptoalkylsulfide, or a mixture thereof, can be from 1:1.01 to 1:2.
17. A composition comprising at least one sulfide-containing oligomeric polythiol chosen from materials represented by the following structural formulas:



wherein n represents an integer from 1 to 20.

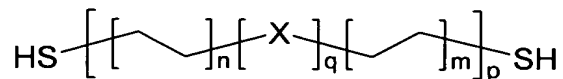
18. A method of preparing a sulfide-containing oligomeric polythiol represented by the following structural formulas:



wherein n represents an integer from 1 to 20, comprising introducing asym-dichloroacetone together with polymercaptoalkylsulfide.

19. The method of claim 18 wherein the reaction is carried out in the presence of a base.

20. The method of claim 18 wherein the reaction is carried out in the presence of a solvent.
21. The method of claim 18 wherein the asym-dichloroacetone is 1,1-dichloroacetone.
- 5 22. The method of claim 18 wherein the polymercaptoalkylsulfide is chosen from materials represented by the following general formula:



- 10 wherein X represents O, S or Se, n is an integer from 0 to 10, m is an integer from 0 to 10, p is an integer from 1 to 10, q is an integer from 0 to 3, and (m + n) is an integer from 1 to 20.
23. The method of claim 22 wherein the
- 15 polymercaptoalkylsulfide is dimercaptoethylsulfide.
24. The method of claim 18 wherein "n" moles of asym-dichloroacetone and "n+1" moles of polymercaptoalkylsulfide are present in the reaction, wherein n is an integer from 1 to 20.